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A New System of Indicators for European Development Policy?

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Abstract

The first draft of a European spatial development perspective (ESDP) presented at the informal conference of ministers for regional policy and planning in June 1997 includes a proposal for a new "system of indicators". The purpose of this system of indicators is to form the basis for a typology of European regions and for a set of scenarios on the future development of the European space.

The need to improve the present standards of spatial analysis within the European Union is clearly demonstrated by the ESDP. Nevertheless, the indicators proposed in the document (on geographical location, economic potential, social and spatial integration, and land use intensity among others) represent only vague descriptions of spatial characteristics which may be somehow relevant for regional development. Important questions still remain: How could such characteristics be defined in a feasible operational way? Which regional level is most appropriate for analysis? Is it at all possible to provide the required data at this spatial level?

In general, European regional policy as actually applied in the context of the Structural Funds indicates something quite different to a "system" of indicators. The delineation of promotion areas, especially objective 2 areas and objective 5b areas, is partly based on qualitative criteria; as a consequence, the process of application for regional aid is open to interpretation of these criteria by national and regional governments.

According to the principle of subsidiarity, this could be regarded as positive for decision making. On the other hand, the number of promotion areas and programmes seems to expand beyond the EU's capacity to finance them. Therefore, the proposed reform of the Structural Funds will have to define new criteria capable of evaluating the need for EU assistance among European regions on a common basis and which must, at the same time, be capable of reflecting specific regional characteristics and development potentials.

The paper gives an overview of the need for and a possible framework of a new system of indicators.

1 Initial considerations

The first official draft of a European spatial development perspective (ESDP) presented at the informal conference of ministers for regional policy and planning pursues three fundamental goals (ESDP, p.5):

- economic and social cohesion;
- sustainable development;
- balanced competitiveness of the European territory.

According to the ESDP these three goals are being pursued in combination, with attention also being paid to how they interact. "In this respect they may be compared to the three operational objectives put forward in the Leipzig document: balance, protection and development. Although each goal puts particular emphasis on one of the three objectives."

Cohesion puts particular emphasis on the operational objective of balance and is to be pursued by an equity-orientated policy approach. Sustainable development puts particular emphasis on the protection of cultural and natural resources. Territorial competitiveness puts particular emphasis on development and is to be pursued by an efficiency-orientated policy approach.

The ESDP explains that none of the three operational objectives can be favoured more than the other two. What is not mentioned here, however, is that when it comes to realizing concrete measures of regional development policy within determined regions the limits of financial and natural resources will soon be reached. The consequence is that, at least for a limited period of time, it will often be necessary to favour one operational objective more than the other two in order to assure a continuous path of development towards the achievement of the three fundamental goals. It will practically never be possible to pursue all three objectives with the same intensity.

This fact has been recognised indirectly by the EDSP: "one of the main ways in which the ESDP can add value is by facilitating achievement of these objectives through the creation of links between them - *by giving them due weight in the light of the variety of territorial situations in Europe.*" (underlining added). It must be noted that, in the short run, there usually exist substantial conflicts between the objectives mentioned above. Therefore, the intention "to give objectives their due weight" may lead to painful political decisions.

It is worth recalling that European policy is currently confronted with two main tasks which are pointing into opposite directions. On the one hand, Europe as a whole has to meet the challenge of global competition on a world scale. On the other hand, it is of crucial importance to reduce

regional disparities and to obtain a high degree of security and stability within the European Union. This is especially true with regard to the future expansion of the Union to the MOE countries.

Nevertheless, as the proposals of the European Commission make clear (see Agenda 2000), there will be no expanding the budget in order to comply with these tasks. In other words, while the available resources remain the same, the complexity and severity of the problems to be faced is increasing.

With regard to these proposals the question arises as to how European regional development policy actually realises the task of giving objectives their due weight according to different regional contexts.

One possibility for the outsider to comprehend how political objectives are being realised is by looking at the methodology which has been used to translate such objectives into operational indicators. It is the intention of this article to explore the use of indicators with regard to this process. Two areas of application will be considered:

- criteria and their indicators for spatial analysis as proposed in the first draft of the EDSP;
- indicators used for the delineation of promotion areas in the European Union.

Before these topics will be discussed in detail, a few considerations concerning the methodical background of indicators are necessary.

Generally speaking, indicators "indicate" a complex quality of "reality" (indicandum¹⁾) on the basis of a normative definition. This definition includes the assumption that a given phenomenon, such as the existence of free elections, represents a more complex situation, in this case democracy, that cannot be observed directly. In the case of *quantitative indicators*, such a complex situation has to be translated into numerical values.

Inevitably, the process of quantification leads to simplifications (the assumptions) because it must be assumed that there is a connection between some of the quantitative and all of the qualitative aspects of the indicandum. While simplification has the disadvantage of information loss, it is at the same time an important prerequisite for large-scale analysis of spatial units as well as for systematic comparison of a large number of spatial units (Biehl/Ungar 1995).

2 The current application of indicators in European regional development policy

2.1 Spatial criteria and their indicators for spatial analysis as proposed in the first draft of the ESDP

The first official draft of the European Spatial Development Perspective (ESDP) is looked upon as the first comprehensive document dealing with the spatial dimension at the European level. This section concentrates on one aspect of the ESDP: The proposal of seven criteria for comprehensive spatial analysis at the European level which is included in Part II of the ESDP ²⁾.

Part II of the ESDP examines the forces driving the long-term spatial development of Europe. It presents a view of European geographic, demographic, economic, social and environmental trends and a preliminary assessment of the impact of the Community sectoral policies on the European territory. "In order to establish a more solid comparative evaluation of territorial strengths, weaknesses, opportunities and threats" (ESDP, p.42) there is a need, according to the ESDP, to agree on a set of spatial criteria and their indicators. These can be used to develop different typologies of areas and to assess spatial impacts of long-term scenarios of European development.

Before the criteria are examined which, in the opinion of the ESDP, require one or several quantitative and qualitative indicators along with the "methods for combined assessment" (the importance of these methods is stressed many times within the document), to be developed, a closer look at the purpose of these criteria is necessary.

"On the basis of such a set of criteria it can be established on a comparative basis whether different cities, towns or areas of Europe enjoy, with respect to the three fundamental goals of the ESDP, a relatively stronger or weaker outlook for spatial development." (ESDP, p.42)

This paragraph tries to take account of the prospects of development with respect to the three fundamental goals "economic and social cohesion, sustainable development and a balanced competitiveness of the European territory". The statement includes the assumption that the factors relevant to accomplish the development objectives are well known and that they can be described by criteria and their indicators. However the results of the corresponding analysis in Part II of ESDP are rather weak.

It also remains unclear whether the indicators proposed are aimed at the regional, the national and/or the European levels.

The main task of the comparative "outlook for spatial development" according to the ESDP can be complied with by the use of criteria and indicators in two fields of spatial analysis.

(1) "Research into the elaboration of typologies of areas is important as they are needed as a tool to formulate hypotheses about interrelations between elements of physical and human geography on the one hand and sectoral policies on the other." (ESPD, p.43) ... "It has been recognized that such work is essential if any application of criteria and indicators for comparative spatial analyses is to have any practical use."

There is no indication as to the nature of the typologies mentioned here. Since the ESDP document, in the preceding section (II D), criticises poor geographical coordination of the Community's sectoral policies which leads to an inefficient use of resources, the above statement might very well be aimed at giving evidence of this fact in quantitative terms. Then again, the statement of the ESDP might be seen as a timid approach at shifting attention to the need for new criteria suited to delineate promotion areas in the European Union. In both cases, however, these criteria would have to comprise the objectives as well as the factors of development.

(2) The second field for the application of criteria is the assessment of long-term scenarios for the European space. It is important to note that the German version of the text speaks of "Erstellung", which means "elaboration" rather than "assessment" of scenarios ³⁾.

Let it be assumed, for the time being, that an evaluation of spatial effects is meant here. Following the ideas of the ESDP, long-term scenarios will be developed independently from the criteria proposed by the ESDP. The elaboration of a set of assumptions and alternative visions concerning the long-term future, e.g. with regard to demographic development, the repercussions of globalization or the expansion of the European Union towards the MOE countries, forms an important prerequisite for working out such scenarios. These assumptions and visions constitute the information base for alternative scenarios up to the year 2015.

In order to evaluate the scenarios for their spatial impacts, it will be necessary that the criteria and indicators taken into consideration incorporate - or have a connection with - spatial objectives. Obviously, the purpose of criteria and indicators as described in the ESDP is far from being clear. In the following a more profound analysis of these criteria is given, which pays particular attention to the question as to whether an systematic interrelation between the fundamental goals of the ESDP and the criteria proposed can be found.

The seven criteria suggested in the ESDP

(1) Geographical Position. "Geographical position is the relative location of an area within a continental, transnational or regional context." (ESDP, p.42)

This so-called criterion refers to locational assets and disadvantages in the broadest sense. It covers a great variety of phenomena, ranging from the accessibility of regions to the climatic conditions of an area (the harsh Nordic climate and the occurrence of long periods of drought in the south are mentioned in this context). In an overall definition like this, it is impossible to include "geographical position" into any objective/criteria scheme, nor is any single variable capable of representing this criterion.

(2) Economic Strength. "Economic strength in a spatial context expresses the relative (international, national and regional) economic position of a city, town or area, the ability to sustain or improve its position and the intensity of spin-off effects."

Showing some characteristics of a development objective in itself, this criterion obviously has a different status compared to the "geographical position" mentioned before. Still, there is a connection between these criteria inasmuch as a high degree of accessibility (which is part of the geographical position) can contribute, among other aspects, to achieve the objective of economic strength.

The ESDP document gives some hints on the operational realisation of this criterion: "There is no simple indicator available of economic strength in this respect. A sustainable high level of economic strength would involve at least a more than average economic output and/or a more than average per capita income, a less than average rate of unemployment, a favourable, modern and diversified sectoral structure and (a potential for) intensive trade relations with other (world) regions."

These minimum-requirements of the criterion can be provided by economic standard indicators currently in use ⁴⁾. Economic strength, as the ESDP sees it, is not limited to these aspects but also comprises the relative economic position and the intensity of spin-off effects. This refers to a hierarchy of cities (metropolitan areas, urban centres of international, national or regional importance) mentioned several times in the ESDP. Nevertheless, a classification of the cities and regions of Europe into the categories of this hierarchy can only be found in the map supplement of the ESDP, and no information is given on the analyses leading to this relevant map.

(3) Social Integration. "Social integration expresses the level of interaction between different social groups in society, distinguished either by age, income, education ... or nationality." (ESDP, p.43)

While this definition of social integration appears to be very broad, the ESDP applies it mainly to problems of segregation within urbanized areas.

Therefore, social integration cannot be regarded as an equivalent for social cohesion but, according to the ESDP, it must be interpreted as a location factor. The ESDP suggests using the unemployment rate as an indicator for this criterion. This would imply that segregation is an equivalent for unemployment, a somewhat unusual consequence. Apart from that, there seems to be a remarkable similarity between "social integration" as defined in the ESDP and the new criteria for the delineation of objective 2 regions proposed by the European Commission (see section 2.2.2).

(4) Spatial Integration. "Spatial integration expresses the opportunities for and level of (economic, cultural) interaction within and between areas and may reflect the willingness to cooperate. ... Spatial integration is positively influenced by the presence of efficient administrative bodies, physical and functional complementary between areas and the absence of cultural and political controversies." ⁵⁾

The ESDP does not give any information about the position of "spatial integration" within a objective/criteria scheme. Does "spatial integration" represent a development objective on its own or is it to be regarded as a development factor for economic and social cohesion? The possibility of quantification for this criterion also remains vague. Is it reasonable to measure the efficiency of administrations by the duration of their decision making processes?

In the supplement of the ESDP a map titled "Diversity, Complementarity and Co-operation" shows potential cross-border areas. It can only be guessed whether this map is intended to be a means of quantification of spatial integration. If so, then the indicator derived from the map will be, at best, an ordinal (0/1) one. The reader of the EDSP does not learn anything about how the values have been assigned to the indicator nor whether the results can be compared across the member states of the European Union.

(5) Land Use Pressure. "Land use pressure may reflect higher probability for conflicts of interests between different types of land use or different land users, or can indicate problems arising from an over-demand or under-demand for land in certain areas." (ESDP, p.43)

Land use pressure as the ESDP defines it can be interpreted in various ways, according to the spatial context regarded. Ideally, variables like land prices and extent of settlement area offer possible approaches to quantify this criterion. In reality, however, it must be noted that land markets are almost never completely free of restrictions and that competing land use policies may be existing. These conditions affect the value of the indicator and can lead to distorted results.

The ESDP offers a cartographic illustration for this topic. The map on "Rural-Urban Relationships" distinguishes three classes of "existing or expected land use pressures": "strong", "of lesser intensity" and "uncertain". The methodical background of this classification is not laid open. Since an evaluation on the basis of this ranking greatly depends on the spatial context, an ordinal indicator of general validity cannot be deduced from this illustration.

(6) Natural Assets / (7) Cultural Assets. "This criterion concerns characteristics of ecosystems and other natural areas - their relative importance, sensitivity, size or rarity." ... "This criterion concerns characteristics of landscapes and ancient and modern cultural structures and groups of buildings - their relative importance, sensitivity, size or rarity." (ESDP, p.43)

There is no doubt, of course, that these criteria refer to the objective of sustainability. They are connected to a specific field of action which the ESDP describes as "prudent management and development of Europe's natural and cultural heritage" (ESDP, p.55). Nevertheless, these criteria are of little help with regard to the operational realisation of the objective. In fact, the ESDP document remarks: "indicators to assess the quality, importance and future development of natural and cultural assets are still underdeveloped" (ESDP, p.43).

Summarizing, the outcome of the seven criteria proposed by the ESDP is rather disappointing. The approach suffers from systematic shortcomings and gives the general impression of a certain helplessness. The criteria presented in the document can be assigned to different levels of an objective/criteria-scheme, although such a scheme is not presented explicitly by the ESDP. Furthermore, it seems that, while some criteria are connected with each other, others stand alone showing no obvious relationship with the objectives outlined in the document. It can therefore be doubted that the criteria discussed in the ESDP will, to any great extent, contribute to the improvement of spatial analysis and to the evaluation of development perspectives for the European regions.

2.2 The delineation of promotion areas in the European Union

As most readers will already know the European Union's structural policy currently considers seven objectives. Four of them apply to selected promotion areas only. These areas are: regions whose development is lagging behind (Objective 1), regions undergoing economic and social conversion (Objective 2), declining rural areas (Objective 5b), and sparsely populated areas, defined in Sweden and Finland only (Objective 6).

The interventions of the European Union's structural policy are aimed at supporting the main development objectives outlined in Article 130a of the Treaty establishing the European Union: "In order to strengthen its economic and social cohesion, the Community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions, including rural areas."

Here the question arises as to how the "least favoured regions" of the European Union are to be defined in practical terms.

2.2.1 Objective 1 Regions

Assistance according to Objective 1 applies to areas whose per capita GDP is less than 75 percent of the Community average. In other words, for the delineation of areas eligible under Objective 1 an

indicator is used which refers to the income of a given region divided by the number of inhabitants of that region. If the indicator does not reach the threshold value of 75 percent of the Community average for a given region, this region will be regarded as "least favoured" and, consequently, needful of Objective 1 assistance. The definition of regions eligible under Objective 1 refers to areas of level 2 of the Nomenclature of Territorial Statistical Units (NUTS 2).

In view of the considerations of the previous sections, three questions on the practice of delineating Objective 1 areas arise:

- (1) To what extent can the GDP per capita be considered an "appropriate indicator" for the delineation of promotion areas
- (2) Can the Community average be considered a "reasonable" criteria for the definition of promotion areas according to Objective 1?
- (3) Can areas at the NUTS 2 level be regarded as suitable spatial units for measuring this indicator?

As to the choice of this indicator, it could be argued that the GDP per capita represents a means to measure the *quality* of the labour market situation in a given region ⁶⁾. The indicator does not, however, give sufficient information as to whether the region provides for "enough" employment opportunities. Therefore, it remains uncertain whether or not a given degree of *quality* of the labour market is paralleled by a sound *quantity* of jobs ⁷⁾.

As to the second question, it must be noted that the practise of using a Community average as a threshold value for the definition of promotion areas is highly questionable because the average of a given contribution cannot in itself represent a development aim as long as this value is neither founded on theoretical considerations nor justified by normative assumptions. Instead of referring to the Community average, it should be the responsibility of the politicians and/or the administration to propose less vague but equally quantifiable objectives here.

Finally, let the spatial units these promotion areas are based on be considered in more detail. As has been noted, the regions covered by Objective 1 correspond to level 2 of the NUTS system. This system incorporates the regional hierarchies implemented in the different member states. It is obvious, of course, that bringing together these diverse hierarchies does not necessarily lead to a comprehensible consistent system of European regions.

In fact, the opposite applies since the regions of the different member states had originally not been delineated for the purpose of comparative analyses across the European Union. These regions therefore reflect very different ideas on state administration and decentralization and take into account a variety of historic events. In other words, it must be noted that the NUTS system of

regions is extremely heterogeneous. This is true not only for the political and administrative competence the regions have in the different member states but also applies to the size of these territorial units.

To give only a few examples: why are the 439 "Kreise" (counties) of Germany assigned to the same NUTS level as the 96 "Départements" of France although these units differ greatly in their administrative competence? Why is the German "Regierungsbezirk" of Düsseldorf, which accounts for 5.3 million inhabitants, considered to be a region comparable to the Austrian Burgenland with an population of only 250,000? The "Comunidad Autónoma" Castilla y León in Spain has a surface of 94100 square kilometers. Although this area is four times larger than Tuscany in Italy and eleven times larger than the French Alsace, these regions belong to the same NUTS level.

With regard to the delineation of Objective 1 areas it is of particular importance to note that the NUTS regions do not reflect functional interactions. This fact is responsible for methodical difficulties should the GDP per capita be measured on such a basis, as is the case for the delineation of promotion areas according to Objective 1.

The problem becomes evident if it is recalled that the calculation of the GDP per capita includes two geographical references. These references may differ from one another. By definition, the GDP refers to the location of origin, that is to say for the region where a company is located. The number of inhabitants, on the other hand, is measured at the location of residence, disregarding the region where they work. In fact, workers will often cross one or several administrative borders when they commute between their residence and their location of employment. Of course, one of these borders could very well be the border of a NUTS 2 region.

The consequences of paying too little attention to the patterns of interaction seem to be commonly underestimated. The case of Hamburg is a good example to show the effect which may result from such shortcomings. Being one of the states of the Federal Republic of Germany, the city of Hamburg has been assigned to level 1 of the NUTS system. Because of the region's small area, it is not subdivided any further, therefore Hamburg also is a NUTS 2 and a NUTS 3 region.

Calculated on the basis of this territorial entity, Hamburg has the highest GDP per capita of all European regions. With further consideration it becomes clear that this result does not show the whole picture because the high GDP per capita is the consequence of the dividing the city's economic output (the GDP) by the number of inhabitants. The calculation does not take into account the fact that a high number of people living outside the administrative city limits also contribute to the generation of the GDP. In other words, the GDP is divided by too small a number.

Consequently, the value of the indicator is too high for the city of Hamburg and too low for the neighbouring regions.

If, in a comparable approach, the GDP per capita for the region of Frankfurt/Main is also calculated only for the area described by the administrative city limits (disregarding the metropolitan area) the same effect would emerge: the GDP per capita would be almost twice as high as the value for Hamburg. Similar situations can be found all across Europe (e.g. the city of Paris in the centre of the Ile-de-France, Barcelona within Catalonia, Milan within Lombardy).

In order to minimize such effects, the "Gemeinschaftsaufgabe Verbesserung der regionalen Wirtschaftsstruktur" (GRW) as the main instrument of regional policy in Germany, uses so-called "Arbeitsmarktregionen" (regional labour markets) instead of strict administrative entities. In the case of Hamburg, the GRW region includes the city itself and the four neighbouring counties in Schleswig-Holstein and Niedersachsen. If the GDP per capita is calculated on this basis, the resulting value of per capita regional income is much lower, giving Hamburg a relatively weaker position among the German regions and thus drawing a much more "realistic" picture of the actual situation.

2.2.2 Objective 2 and Objective 5b Regions

In contrast to the Objective 1 regions considered above, the areas in need of assistance according to Objective 2 and Objective 5b are not based on criteria comparable across all member states. The delineation of these promotion areas is characterized by a high degree of "political" decision making. This is particularly true for Objective 5b.

Ideally, regions covered by Objective 2 have to meet a number of "hard" criteria which have been outlined by the corresponding regulations. Nevertheless, many exceptions facilitate the delineation of promotion areas which do not satisfy these "hard" criteria ⁸⁾.

The regions covered by Objective 2 must represent or belong to a NUTS level 3 territorial unit which satisfies the following criteria:

- (a) an average rate of unemployment over the last three years above the Community average;
- (b) a percentage share of industrial employment in total employment equal or greater than the Community average in any reference year from 1975 onwards;
- (c) an observable fall in industrial employment compared with the reference year chosen in accordance with (b).

In contrast to these regulations, the definition of Objective 5b areas is almost free of quantitative criteria. Here, a "low state in economic and social development" is of primary relevance. In addition to this clause, which is rather non-committal, the regions potentially in need of assistance have to satisfy at least two of the following three criteria:

- (a) high share of agricultural employment in total employment;
- (b) low level of agricultural income, in particular as expressed in terms of agricultural value added per agricultural work unit (AWU);
- (c) low population density and/or a significant depopulation trend.

The definition of Objective 5b does not include a specification as to the territorial units the measurements must be based on.

Before these definitions are examined in more detail, a short discussion of the current state of the reforms of the Structural Funds is necessary. According to the considerations outlined by the EU Commission, the regional policy for the years 2000-2006 should be characterized by an increased concentration and simplification of the Structural Funds (see Agenda 2000). This increase in concentration will be achieved by reducing the population ceiling for the Community assistance from 51 to 40 percent, by reducing the number of priority Objectives from seven to three, and by reducing the number of Community initiatives from 14 down to three.

According to these considerations, Objective 1 will be kept in its present form, although the "hard" criteria should be applied more thoroughly in the future (areas eligible under Objective 6 will be incorporated into Objective 1 automatically). The current Objectives 2 and 5b will be incorporated into a *new* Objective 2 (support of the economic and social conversion of areas facing structural difficulties) which will also be applicable to "urban areas in difficulty" and "depressed areas dependent on fisheries" (the current Objectives 3 and 4 will be replaced by a new Objective 3).

If the suggestions of the Commission are realized, the new Objective 2 will be mainly focussed on reduction of the high unemployment rate currently predominant in Europe. Therefore, the objective explicitly refers to quantitative aspects of the labour market. The new Objective 2 will be divided into four spatial categories.

Industrial areas. These areas are very similar to the areas currently covered by Objective 2 complying with the "hard" criteria mentioned earlier (only has the reference year been altered to 1985 in this new definition).

The **rural areas** outlined by the proposals for the future Objective 2 must satisfy the following criteria:

- (a) either a population density of less than 100 people per square kilometer, or a percentage share of agricultural employment in total employment which is equal to, or higher than, twice the Community average in any reference year from 1985;
- (b) either an average unemployment rate over the last three years above the Community average, or a decline in population since 1985.

Compared with the rural areas according to the current Objective 5b, there can be no doubt that an improvement of methodology has been achieved by the new definition of Objective 2 because, for the first time, these areas have to meet some "hard" criteria.

The new category of **urban areas** refers to densely populated regions which meet at least one of the following criteria:

- (a) a rate of long-term unemployment higher than the Community average;
- (b) a high level of poverty, including precarious housing conditions;
- (c) a particularly damaged environment;
- (d) a high crime rate;
- (e) a low level of education among the population.

It is important to note here that the delineation of urban areas is only partially based on quantitative criteria. The proposal does not explain methods for measuring a high level of poverty, a particularly damaged environment, a high crime rate or a low level of education. These criteria could perhaps be interpreted as "social integration" according to the ESDP (see section 2.1).

The areas dependent on fisheries cover "coastal areas in which the number of jobs in the fisheries industry as a percentage of total employment is significant and which are facing structural socio-economic problems relating to the restructuring of the fisheries sector which result in a significant reduction in the number of jobs in that sector".

Apparently the delineation of areas in need of Community assistance becomes increasingly imprecise from the category of industrial areas to areas dependent on fisheries according to the new Objective 2. This fact is in accordance with a declining priority of these subcategories shown by respective population ceilings. In the case of the industrial areas, the indicative population should constitute about 10 percent of the population of the Community, 5 percent in the case of the rural areas, 2 percent in the case of the urban areas and 1 percent in the case of the areas dependent on fisheries.

With regard to the indicators used to delineate these types of promotion areas, several methodical questions arise.

First of all, the division of the new Objective 2 into four subcategories can be questioned because it seems to be contradictory to the intention of concentrating the instruments of regional policy. Not only are the existing Objectives 2 and 5b continued under the "cover" of the more extensively defined new Objective 2, they will also be expanded beyond the current state by the incorporation of new categories.

The differentiation realized in the new Objective 2 does not correspond to different objectives - because all categories aim at reducing the high rate of unemployment - but refers to a mixture of structural problems (e.g. social problems and problems of the environment) which sometimes can hardly be quantified. Moreover, the question of how to define adequate threshold values for the criteria is not solved.

The urban areas of the new Objective 2 refer to a great variety of problems. It is not made clear, however, whether these areas should correspond to whole metropolitan regions or should rather be limited to comparatively small urban districts. The low indicative population of only 2 percent of the Community population which is paralleled by the fact that these areas are usually very densely populated seems to point at the second assumption. Then again, urban districts are not represented in the NUTS system so far. In any case, it remains doubtful whether there is really an "European relevance" justifying Community intervention in such areas.

It must be noted, once again, that the delineation of promotion areas of both the current Objectives 2 and 5b and the new Objective 2 can hardly be considered satisfactory. The main problem lies in the regulation that promotion areas should be based on regions corresponding to the NUTS level 3, *or other areas* which meet the criteria for Community assistance. Supported by a general clause determining that "the Commission and the member states shall seek to ensure that assistance is genuinely concentrated on the areas most seriously affected, at the most appropriate geographical level, taking into account the particular situation of the areas concerned", this regulation provides for a lot of possibilities to delineate promotion areas simply by political decision.

The result is that the process of decision making leading to the delineation of areas in need of Community assistance is rather obscure to the outsider. The relatively free choice of territorial entities is contradictory to the criteria taken into account because it should almost always be possible to point out potential promotion areas if the delineation of such areas is "clever" enough (Klemmer 1998).

3 Feasibility of a "new system of indicators"

3.1 Account of the current availability of regional data

Before proceeding to the discussion of a possible framework of a new system of indicators relevant for European regional policy and to considering how the current practice of delineating promotion areas could be improved, a short glance at the availability of regional data is necessary. The variables available at NUTS level 3 are of particular interest here, because a new method of delineating promotion areas could be based on these territorial units.

The following account refers to the Eurostat Regio data base as of March 1998. The main topics of this data base are agriculture, population, economic accounting, energy, research and development, transport and unemployment, amounting to a an overall total of 84 tables. The quality of the data base is slightly affected by the fact that some member states take longer than others to provide data for the tables. Therefore, it is sometimes necessary to use data older than the last year of reference in comparative analysis.

Whereas a broad catalogue of variables is presented at NUTS level 2, the availability of data for the smaller NUTS 3 regions is severely limited. In the following a simple overview of the current situation is given.

- (1) Agriculture.** The variables available for NUTS level 3 are: number, size and employment structure (full time / part time) of farms. On the other hand, production accounts, livestock, land use by types of crops, harvests and yields are only available at NUTS level 2.
- (2) Population.** NUTS 3: number of residents distinguished by gender (not available for all member states), number of births and deaths, population density. NUTS 2: Population by age groups, information on infant mortality, matrices representing the pattern of migration within and across the member states (sometimes only available for NUTS level 1).
- (3) Economic Accounting.** NUTS level 3: GDP in Ecu and in PPS; gross value-added at factor costs and at market prices; employment of the three sectors. NUTS level 2: active population and employment differentiated by the classification NACE CLIO 17, gross fixed capital formation, wages and salaries.
- (4) Energy and Industry.** No data is available for NUTS level 3. For NUTS level 2 the following variables are presented: installed gross performance and capacity, net electricity output, energy consumption by sectors, production of coal, gas and crude oil.
- (5) Research and Development, Patents.** On NUTS 3 level only the number of European patents is available. On NUTS level 2 further data is presented: outlay for R and D and personnel for R and D

(differentiated by three sectors each), patents applied for (subdivided into the eight sections of the IPC).

(6) Transport. No data is available for NUTS level 3. On NUTS level 2 are presented: number of passengers and flows of goods by air, waterways, roads and railways, number of vehicles, information on traffic safety.

(7) Unemployment. NUTS 3: active population, number of unemployed, and unemployment rates, differentiated by gender (not available for all member states) and by two age classes. In addition, variables concerning long-term unemployment are presented for NUTS level 2.

This shows that the availability of comparable data for the European regions is rather limited and demonstrates why regional analyses are often obliged to give up high pretensions for more pragmatic approaches.

3.2 Feasibility with regard to spatial analysis

It has been shown (see section 2.1) that the seven criteria proposed by the ESDP cannot be looked upon as a starting point to improve spatial analyses. Still, the proposal is remarkable for one fact: it seems that even at the political level it is now being recognized that the indicators currently in use (along with the criteria they refer to) will, in the long run, not be sufficient any more. This is true especially when future regional development policy will be more intensely dedicated to the objective of sustainability.

Up to now, no general consensus on new concepts for criteria and their indicators is in sight. Since this failure is a general problem in regional science and regional development policy, the ESDP takes no responsibility for it. This fact has to be kept in mind when considering the following remarks on the feasibility of a "new system of indicators".

No universal theory exists for the derivation of consistent hierarchical structures of development objectives and development factors. Therefore it is rather doubtful whether such a structure could or should be laid out in a document like the ESDP which has been elaborated by governmental institutions. In any case, the high degree of normativeness inherent in such approaches should be clearly pointed out.

There is a need, of course, to translate spatial development objectives into criteria which can be measured by quantitative indicators. This fact requires that first of all the development objectives must be clearly outlined. This is not always the case, social and environmental objectives suffering the greatest shortcomings.

Another fundamental question is whether a catalogue of criteria and their corresponding indicators can be defined at all if the spatial levels they are based on are disregarded. It will usually not be possible to translate development objectives into concrete terms without taking into account the spatial level these objectives refer to. The same is true for the definition of criteria and their indicators: they either refer to the European, the national or the regional level. However, the ESDP claims to be directed towards *all* spatial levels. From our point of view, it would be more realistic and more appropriate to the principle of subsidiarity to first concentrate on a catalogue of criteria for spatial development policy in the whole of Europe.

The acute lack of data comparable for all Europe regarding environmental and social objectives is partly caused by the fact that the demand for this information is relatively new. In contrast, the definition of economic objectives and economic indicators (e.g. national accounting)

has a much longer tradition. But even here, a standardized method of calculation will only be implemented by next year ⁹⁾.

3.3 Feasibility with regard to the definition of promotion areas

The current practice of designating areas in need of Community assistance has been discussed in section 2.2. With regard to these considerations, and taking into account the limited availability of regional data, the question arises as to how the current situation could be improved.

Firstly, the fact that the European Union has actually implemented several types of promotion areas could be questioned. It seems doubtful whether this practice is really in accordance with the intention to concentrate regional policy interventions on the regions most needful of assistance. Here, a further concentration of Community action is desirable. One way to achieve such a concentration could consist of bringing together the different types of geographically differentiated objectives into only one. This hypothetical objective could merely correspond to the existing Objective 1 but would also have to comprise the quantitative aspects of the labour market.

As to the choice of indicators, variables like the unemployment rate or the long-term unemployment (the latter only being available for NUTS level 2) could be used for the delineation of areas eligible under such an objective of regional development. The evaluation of this indicator could then be combined with evaluations of the income of a given region, of the GDP per capita for instance, by some aggregation process. Some methodical shortcomings notwithstanding, the practice of delineating promotion areas according to the German "Gemeinschaftsaufgabe Verbesserung der regionalen Wirtschaftsstruktur", which has already been mentioned, could serve as a model for such a combination of indicators.

Secondly, the system of NUTS 2 regions the promotion areas according to Objective 1 are based on has to be criticized. The heterogeneity of these regions and the failure to take into account the functional interrelationships within and between these territorial units has already been mentioned. These shortcomings greatly reduce the quality of the results drawn from this system of analytical units. A redefinition of the European system of NUTS regions is certainly overdue.

For reasons of data availability, such a redefinition of the European system of regions must refer to territorial units already in use, because any other approach would be purely idealistic. Here, the areas corresponding to NUTS level 3 could serve as an aggregation base. Although the territorial units of this regional levels are also relatively large in some cases, it will be possible to achieve an improvement of the current situation by recombining NUTS 3 regions. Experience has shown, however, that the sources of data soon dry up completely when analyses are based on areas below NUTS level 3 (not to speak of the technical problems of handling and maintaining such large data sets; France, for example, has more than 36000 communes).

A new system of regions could be based on the following assumptions:

- The regions should be comparatively homogeneous in size in order to obtain a high degree of comparison (Treuner 1997). A minimum population of one to two million with a population variation of not more than 1:5 (very densely populated metropolitan areas like London, Paris or Madrid and small islands excepted) would probably provide a "good" starting point for such a concept of regions;
- The delineation of regions should take into account the patterns of the functional interactions in order to improve the quality of analyses regarding regional labour markets and income situations (i.e. GDP per capita), among others;
- The delineation of regions should pay attention to "regional identities" in order to prevent the new system from being purely "artificial" and to make it acceptable to the population concerned. The criterion of regional identity should, at least, comprise the historical, cultural and linguistic backgrounds of the regions as well as their administrative and legislative competence within the respective nation;
- The delineation of regions should take into consideration cross-border relationships, especially in those cases where they are most obvious, like in Southern Tyrol, the Basque Country or French Alsace.

It is clear, however, that any attempt at implementing a new system of regions which would be in complete accordance with all these conditions, would be as equally doomed to failure as the intention of "squaring the circle". Nevertheless, any step into this direction could lead to an improvement of the current methodology and, consequently, would help to achieve a higher degree of equity of distribution of Community resources as well as to increase the transparency of the decision making process at European Union level.

4 Conclusion

Concepts and methodology of indicators have been discussed here from a scientific point of view and several critical aspects concerning the current practice have been pointed out. This criticism has, on the one hand, been directed to methodical shortcomings, such as the definition of an adequate system of territorial units for spatial analyses. On the other hand, it has clearly been demonstrated that the current application of indicators suffers sometimes from a poor definition of political objectives.

Summarizing, three main conclusions can be drawn, which may lead to an improved application of indicators in regional development policy:

In the short term it must be noted that the indicators currently in use could become more "convincing" if they were based on a revised system of regions, taking into account, above all, the patterns of functional interaction.

In the long term there is no doubt that the emergence of new objectives and new concepts of development, such as the objective of sustainability, will lead to the necessity of defining new criteria and new indicators. Of course, this task cannot be complied with by regional development policy alone. Here, a close cooperation of politicians and scientists is needed. At the same time, the availability of regional data, which forms an important prerequisite for the development of new indicators, must be improved.

In general it must be emphasized, once again, that the quality of indicators greatly depends on a clear and operational definition of its indicandum, such as politically defined objectives, regional development problems or development factors derived from theoretical approaches.

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Notes

(1)

The expression "indicandum" is derived from *lat. indicare* (partizipium necessitatis). In the present context it means the portion of "reality" intended to be represented by the indicator.

(2)

Part II of the ESDP has been revised in summer 1998 during the UK presidency of the European Union.

(3)

It remains open to speculation whether this distinction is the result of a mere translation error, or whether a different view has been expressed here. It should be mentioned, that the titles of the German, English and French versions also vary. The German document is titled "Konzept" ("concept") whereas the French version bears the name "schema", indicating a higher degree of sophistication. In contrast, the English version of the ESDP uses the non-committal expression "perspective".

(4)

Still, the ESDP apparently does not distinguish thoroughly between the *causes for* economic strength (modern and diversified sectoral structure and (a potential for) intensive trade relations with other (world) regions) and the *consequences resulting from* this criterion (economic output/per capita income).

(5)

If the latter is taken literally it might be considered a successful strategy to encourage all human beings to leave the area.

(6)

Of course, this indicator is open to interpretation. The GDP per capita can also be regarded as an indicator representing the quality of life. In this case the indicator does not provide information concerning the welfare state of a given region.

(7)

In the opinion of *Klemmer* this is the reason why the European Community had to implement more than one instrument of regional intervention (Klemmer 1998).

(8)

"In addition, Community assistance may also extend to...". Council of the EC 1993.

(9)

see Council Regulation (EEC) No 2223/96.